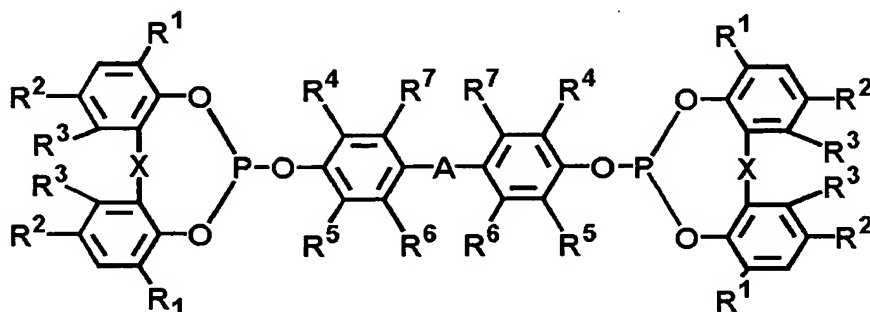


# Abstract

A phosphorous ester compound of formula (I):



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wherein  $\text{R}^1$  and  $\text{R}^2$  independently represent hydrogen,  $\text{C}_{1-8}$  alkyl,  $\text{C}_{5-8}$  cycloalkyl,  $\text{C}_{6-12}$  alkylcycloalkyl,  $\text{C}_{7-12}$  aralkyl or phenyl,

$\text{R}^3$  represents hydrogen or  $\text{C}_{1-8}$  alkyl,

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$\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  independently represent hydrogen,  $\text{C}_{1-8}$  alkyl,  $\text{C}_{5-8}$  cycloalkyl,  $\text{C}_{6-12}$  alkylcycloalkyl,  $\text{C}_{7-12}$  aralkyl, phenyl,  $\text{C}_{1-8}$  alkoxy, or halogen,

provided that four  $\text{R}^1$  groups are the same or different,

four  $\text{R}^2$  groups are the same or different, two  $\text{R}^4$  groups are

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the same or different, two  $\text{R}^5$  groups are the same or different, two  $\text{R}^6$  groups are the same or different, and two  $\text{R}^7$  groups are the same or different,

X represents a single bond, sulfur, or  $-\text{CHR}^8-$ , wherein

$\text{R}^8$  represents hydrogen,  $\text{C}_{1-8}$  alkyl, or  $\text{C}_{5-8}$  cycloalkyl,

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A represents a single bond, oxygen, etc.